



TEXANS FOR
SAFE AND
DRUG-FREE
YOUTH

THE EFFECTS OF ALCOHOL EXCISE TAX INCREASES

ON PUBLIC HEALTH AND SAFETY IN TEXAS

Megan C. Diaz, MA

Frank J. Chaloupka, PhD

David H. Jernigan, PhD

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EXECUTIVE SUMMARY

Excessive alcohol use kills 6,514 Texans each year,⁹ including 1,296 in fatal traffic crashes.¹³

Alcohol taxes protect health and prevent underage drinking. Extensive empirical research has confirmed that increases in alcohol excise taxes reduce underage drinking,^{38,39,40} binge drinking, driving under the influence,²⁷ crime, rape,³⁰ homicides, suicides,^{33,34} fetal alcohol syndrome, sexually transmitted diseases,³² violence against children,³¹ and other consequences of excessive drinking.

Alcohol problems cost Texas an estimated \$19 billion per year.³

Government in Texas, and by extension Texas taxpayers, directly pays \$7.7 billion of these costs.³

Texas last raised its alcohol excise taxes when Ronald Reagan was President.¹² In the thirty years since then, these taxes have lost 56 percent of their value because they do not rise with inflation.

This erosion from inflation has caused alcohol excise tax revenue to fall to \$208 million, which is two-tenths of one percent of total tax revenues, and less than two percent of the direct costs of alcohol problems to Texas taxpayers.

Excise taxes on spirits in Texas are currently the 45th lowest in the nation.¹⁷ Similarly, the excise tax on wine is the 43rd lowest in the nation¹⁸ and the beer excise tax is the 30th lowest.¹⁹

A 10 cent per drink increase in alcohol excise taxes would raise \$708 million in new revenue for the State of Texas, and would result in an 8.6 percent reduction in alcohol consumption.

If Texas raised its alcohol excise taxes by 10 cents per drink, 46 percent of Texans would pay no additional tax because they do not drink alcohol. An additional 32 percent—the moderate drinkers—would pay an additional \$4.53 per person per year in taxes. Excessive and high-risk drinkers would pay 80 percent of the tax—an average of \$26.64 per person—because they do the bulk of the drinking.³⁷

Among excessive and non-excessive drinkers, people making more than \$75,000 per year would pay more per person than any other income group because they tend to drink more alcohol.

That same 10 cent per drink increase in the alcohol excise tax would create 15,189 new jobs in Texas, as revenues shift from the alcohol industry to government, health care and other relatively labor-intensive sectors and services.⁵⁵

A 10 cent per drink increase in alcohol excise taxes would also save 402 lives in Texas. It would keep 66 babies from being born with fetal alcohol syndrome, reduce teenage pregnancy by 359 cases, and prevent 112 alcohol-impaired driving fatalities in Texas, while preventing 113,205 cases of alcohol abuse and dependence.



INTRODUCTION

Texas has not increased its excise taxes on beer, wine and distilled spirits since 1984.^{1,2,i} The current excise tax is less than two cents a drink on beer and wine and less than three cents a drink on distilled spirits. In 2013 the combined excise tax on beer, wine and spirits provided \$208 million in revenue to the state, a number that stands in stark contrast to the \$19 billionⁱⁱ it costs the citizens and the state of Texas in alcohol-related harm each year.³ Underage drinking alone cost Texas \$2.1 billion, ten times the annual revenue collected in alcohol excise taxes.

This report assesses the potential effects of increases in the excise taxes on beer, wine and spirits in Texas. The report begins by describing alcohol consumption patterns in Texas for high school students, college students, and the general population, as well as the harms caused by their excessive consumption. This is followed by a discussion of alcohol taxes in Texas, including how inflation has eroded the value of the alcohol excise tax set in 1984 and contributed to the decreasing contribution of alcohol excise taxes in total tax revenue. The next section describes how much excessive alcohol use is costing the state of Texas, both overall and for the government specifically, and includes health care costs, productivity losses, and other alcohol-related costs. The costs are further broken down to those caused by underage and binge drinking. The penultimate section models the effects of an alcohol excise tax increase, highlighting the impact of the increase on consumption and revenue, health gains, alcohol attributable deaths, underage drinking, and fetal alcohol syndrome. The report concludes with a section providing evidence demonstrating that the arguments used in opposition to alcohol excise tax increases, including the impact on jobs and the costs to the average Texan, are false, misleading, or greatly overstated.



ALCOHOL CONSUMPTION IN TEXAS

High School Alcohol Use

Young people in Texas are drinking despite minimum age laws; for students in 7th-12th grade, alcohol use exceeds the use of tobacco and marijuana.⁴ In 2013, 67 percent of Texas high school students had consumed alcohol during their life, 36 percent had consumed at least one drink in the 30 days prior to the survey, and 21 percent had binge drunk in the 30 days prior to the survey.^{5,iii} Drinking starts at an early age, with 18 percent of students in grades 9 through 12 reporting having had their first full drink of alcohol for the first time before the age of 13.⁶ In 2013, 10 percent of 12th graders reported extreme binge drinking.^{6,iv}

Young Texans are also engaging in risky behavior: 11 percent of students have driven a car one or more times when they have been drinking alcohol, and 29 percent have ridden one or more times in the last 30 days in a car driven by someone who had been drinking.⁶ In addition, Texas currently ranks 5th in the country in teen pregnancies,⁸ and has ranked as high as 3rd.⁷ Nearly one in four high school students report having drunk alcohol or used drugs before their last sexual encounter.⁶

College Alcohol Use

Like Texas high school students, many more college students drink alcoholic beverages than use tobacco and marijuana. In Texas, approximately 81 percent of college students report having used alcohol in their lifetime, 75 percent report having had a drink in the last year, and 62 percent report having had a drink in the last month. Additionally, 43 percent of males and 38 percent of females report binge drinking in the last month.⁴ Drinking patterns vary by age: 75 percent of legal-aged students report drinking compared to 46 percent of underage students. That being said, obtaining alcohol is not difficult for underage college students, as 11 percent used fake IDs, 24 percent report being able to buy alcohol at bars and stores without being asked for an ID, and 78 percent report being able to obtain alcohol from someone over the age of 21.⁴

- i Texas has two kinds of alcohol-specific taxes: a mixed alcoholic beverage tax for consumption on-premises and an excise tax on beer, wine, and spirits. This report will focus specifically on Texas alcohol excise tax.
- ii The number reported in the study is \$16,524.8 million; the figure used has been updated to adjust for inflation and is reported in 2013 dollars.
- iii Binge drinking is defined as drinking five or more alcoholic drinks in one single occasion on at least 1 day for men, and 4 drinks for women. A single occasion constitutes drinking all drinks at the same time or within a couple of hours of each other. The Youth Risk Behavior Surveillance System defines binge drinking as 5 or more drinks of alcohol in a row within a couple of hours for both men and women.
- iv Extreme binge drinking is defined as drinking 10 or more drinks in one single occasion.

Risky sexual behavior is prevalent, with 56 percent of heavy drinkers and 25 percent of moderate drinkers^v engaging in unprotected sex, and 47 percent of heavy drinkers engaging in unplanned sex at least once during the school year because of alcohol consumption. In addition, 25 percent of students report driving after drinking at least once in an average month, and 21 percent of students reported riding in a car with a peer that was high or drunk.⁴

Every year, 372 young people under the age of 21 die in Texas because of excessive alcohol use. The majority of these deaths are from motor vehicle traffic crashes, homicides, or suicides.⁹ In 2013 underage drinking cost Texans \$2.1 billion, with the largest share of cost to the state coming from alcohol-related traffic crashes.⁹

Alcohol Use in the General Population

Adults in Texas also drink alcohol: On average, 53 percent of adults in Texas drank in the last month, while 26 percent reported binge drinking.¹⁰

From 2007 to 2008, 1.3 million people, or 6.9 percent of the population ages 12 and above, fit the criteria for alcohol abuse or dependence; of these, 1.29 million required alcohol treatment for alcohol use, but did not receive any.^{10vi} From 2011-2012, 6.7 percent of the Texas population fit this criteria; this percentage is similar to the United States average (6.6 percent) and has not changed significantly from 2008-2012.¹¹ Heavy alcohol use^{vii} among persons aged 21 or older is 6.9 percent, or approximately 1.2 million people. Of this group, only 3.2 percent received treatment for alcohol use.¹¹

Alcohol Use and Harm

Excessive alcohol use^{viii} kills 6,514⁹ Texans each year. Alcohol-related harm occurs to non-drinkers as well as drinkers. With respect to crime, 11 percent of sexual assault offenders in Texas in 2012 reported being under the influence of alcohol at the time of their offense.¹² Impaired driving was responsible for the deaths of 1,296 people; put differently, 38 percent of all traffic deaths were caused by a driver with a blood alcohol concentration of .08 g/dL or higher. For Texas, this figure represents a 7 percent increase in deaths from 2011.¹³ The Texas Department of Transportation reports 6,573 serious injury crashes due to driving under the influence (DUI) in which 9,447 people were seriously injured in 2012;¹⁴ in addition, there were 89,256 DUI arrests, a 1.8 percent increase from 2011.¹² Underage arrests for DUIs constituted 8.3 percent of all DUI arrests.¹⁵

v According to the Dietary Guidelines for Americans, moderate drinking is up to 1 drink per day for women and up to 2 drinks per day for men.⁵

vi "Needing but not receiving treatment in the survey" refers to respondents classified as needing treatment for alcohol, but not receiving treatment for an alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

vii Heavy alcohol use is defined as drinking 5 or more drinks on the same occasion on each of 5 or more days in the past 30 days.

viii Excessive alcohol consumption is defined as binge drinking (defined above) plus heavy drinking (defined as consuming more than one drink a day for women and more than two drinks for men) plus any alcohol consumed by underage drinkers plus any alcohol consumed by pregnant women.



ALCOHOL TAXES AND INFLATION IN TEXAS

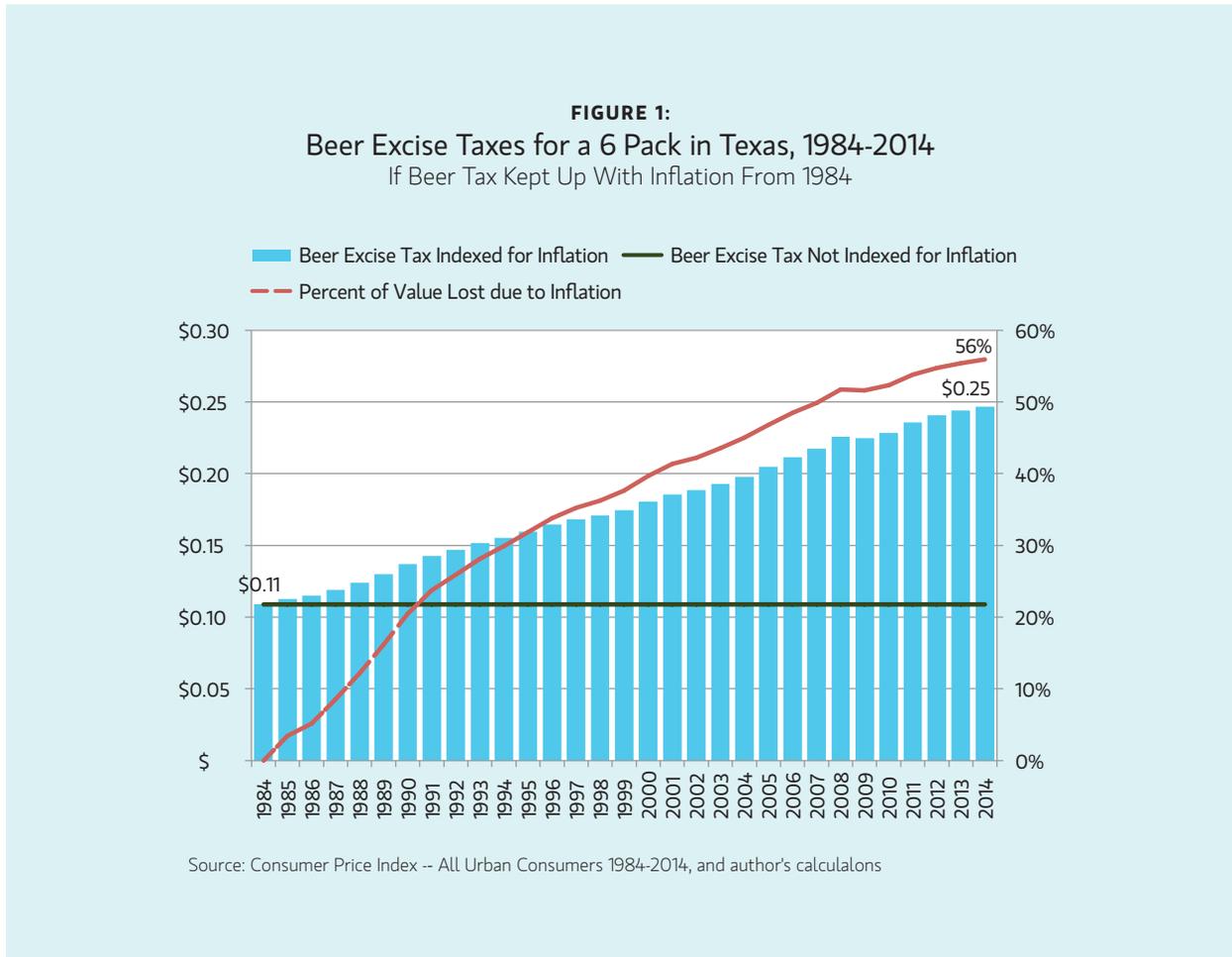
Texas has two kinds of alcohol-specific taxes: mixed beverage taxes and an alcohol excise tax. The state collects a mixed beverage gross receipts tax, which is set at 6.7 percent, and a mixed beverage sales tax, which is set at 8.25 percent, of the retail price as of January 1, 2014. These taxes are paid when establishments with a mixed beverage or private club permit sell alcoholic beverages. The mixed beverage sales taxes raised \$568 million in fiscal year 2014,¹⁶ and these revenues will rise with inflation. However, the tax applies to only sales by mixed beverage or private club permit holders.

Excise taxes, in general, are placed on selected goods in addition to other types of taxes, such as a general sales tax. Excise taxes are paid by producers when they put alcohol into distribution in Texas and are then passed on to the consumer as part of the cost of alcohol. These taxes are imposed at the gallon level and vary by the type of alcohol. Alcohol excise taxes in Texas are low in comparison to other states. The excise tax on spirits in Texas is currently the 45th lowest in the nation.¹⁷ The wine excise tax is 43rd in the nation,¹⁸ and the beer excise tax is 30th.¹⁹ Because the taxes are levied on alcohol producers, the consumer does not actually see the alcohol excise tax as a line item when purchasing beer, wine, or spirits. The increase in taxes will, however, be paid for by the consumer through an increase in the retail price of alcoholic beverages. For alcoholic beverages, empirical evidence suggests that this price increase is usually larger than the actual excise tax increase, a phenomenon referred to as *overshifting*.²⁰ In economics, overshifting occurs when a producer is able to pass along to the consumer the full amount of the excise tax increase and an additional price increase.

Since the excise tax on alcohol is based on the volume of the beverage, its value erodes over time because of inflation. The alcohol excise tax in Texas has not been indexed to keep up with inflation and thus, its effectiveness to generate revenue and to decrease excessive drinking and its consequences has declined significantly. Declining inflation-adjusted alcohol excise taxes and tax revenues are not a problem particular to Texas—federal, state and local governments across the country have all seen declines in real tax rates and tax collections, since most have failed to either increase the alcohol excise tax or index it for inflation. The result is that alcohol—and, in Texas, especially beer and wine—gets cheaper every year in comparison with other goods and services.

The excise tax on spirits in Texas is currently the 45th lowest in the nation. The wine excise tax is 43rd in the nation and the beer excise tax is 30th.

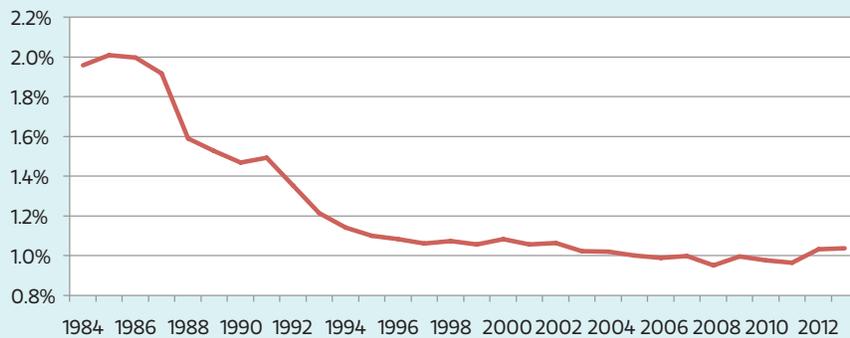
Figure 1 illustrates the erosion that occurs over time because of the lack of indexing for inflation. In 1984, a six-pack of beer had an excise tax rate of 11 cents after that year's increase in the excise tax. Had the tax kept up with inflation, the current excise tax on a six-pack of beer would be 25 cents. This is equivalent to a 56 percent drop in the real value of the beer excise tax.



Had Texas simply indexed its current alcohol excise tax to keep up with inflation, the revenue generated in 2013 would have been \$472 million, instead of \$208 million. From beer alcohol excise taxes alone the excise tax collected would have been \$236 million, instead of \$104 million.

Figure 2 further illustrates the consequences of failing to increase excise taxes to keep up with inflation by comparing the contribution of combined alcohol taxes to total tax collections in Texas. In 1984, alcohol taxes accounted for two percent of total tax collections. The contribution of alcohol taxes was halved by 1996 and this takes into account the 1993 increase in the mixed beverage tax.²¹ In 2013, the combined tax contribution of alcohol excise taxes and the additional mixed beverage sales tax imposed in 1993 was less than one percent of all taxes collected. Furthermore, if only the excise tax portion of total alcohol tax revenues is used in this analysis, the revenue from alcohol excise taxes accounted for only two-tenths of one percent of total tax revenue in 2013.

FIGURE 2:
Combined Alcohol Tax Revenue as a Percent of
Total State Revenue Collections, 1984-2013



Source: Texas Transparency - State Finance 1984 - 2013 and author's calculations

...by 2013 the revenue from alcohol excise taxes accounted for two-tenths of one percent of total tax revenue.



THE COSTS OF ALCOHOL USE

Excessive alcohol use is the third leading cause of preventable death in the United States. Approximately 60 percent of these deaths are caused by diseases such as cirrhosis and strokes, while the remaining 40 percent of deaths are from fatal injuries, violence and other causes.²²

In Texas, excessive alcohol consumption has many adverse consequences beyond the mortality figures cited above. In terms of health consequences, excessive alcohol use increases healthcare costs because of increased injuries and costly chronic health conditions, such as liver cirrhosis and fetal alcohol syndrome (FAS).

Like other studies,^{3, 23} the costs included in this report follow the guidelines proposed in *Guidelines for Cost of Illness Studies in the Public Health Service*. Costs include both direct and indirect costs and exclude intangible costs such as pain, suffering and lost quality of life. The cost estimates used are from 2006 and contained in a study by Sacks and colleagues. The 2006 costs have been adjusted for inflation, using the CPI for all goods and services, to reflect costs in 2013 dollars.

Costs are categorized into healthcare costs, productivity loss-related costs, and other costs. Healthcare costs include the treatment costs for 54 fatal and nonfatal alcohol-related conditions (both alcohol dependence and FAS are included), research and prevention costs, insurance administration costs, and the cost of training substance abuse and mental health professionals. Productivity losses include: premature mortality; impaired productivity at work, home and while institutionalized; work-related absenteeism; crime related productivity losses, such as lost work days, to victims, and from incarcerations; and FAS-related productivity losses. Other costs include: property damage because of crimes and fire; criminal justice system costs, which include police protection, court system costs, correctional institutions, private legal costs and alcohol-related crimes such as driving under the influence; motor vehicle crashes; and FAS-related special education.³

Table 1 summarizes the costs of excessive alcohol use in Texas in 2013 dollars.

Table 1: Cost of Excessive Alcohol Consumption in Texas in 2013

	Cost (millions \$)	Cost per drink	Per capita cost	% of total cost
Estimated total and government cost of excessive alcohol consumption in 2013 (millions \$)				
Total Cost	\$ 19,095	\$ 1.81	\$ 695	
Direct Cost to Government	\$ 7,763	\$ 0.74	\$ 283	40.7%
Estimated healthcare, productivity, and other costs of excessive alcohol consumption in 2013 (millions \$)				
Healthcare	\$ 1,638	\$ 0.16	\$ 60	7.8%
Productivity	\$ 13,753	\$ 1.30	\$ 501	72.0%
Other	\$ 3,845	\$ 0.36	\$ 140	20.1%
Estimated costs for binge drinking and underage drinking in 2013 (millions \$)				
Binge Drinking (all ages)	\$ 15,010	\$ 1.42	\$ 546	78.6%
Underage Drinking	\$ 2,134	\$ 0.20	\$ 78	11.2%
Cost of excessive drinking and smoking (millions \$)				
Excessive Drinking	\$ 19,095		\$ 695	
Smoking	\$ 15,139		\$ 551	
Source: Texas Alcoholic Beverage Commission, 2014; Sacks et al., 2013, (Web Tool available at: http://www.cdc.gov/features/costsofdrinking/), and author's calculations				

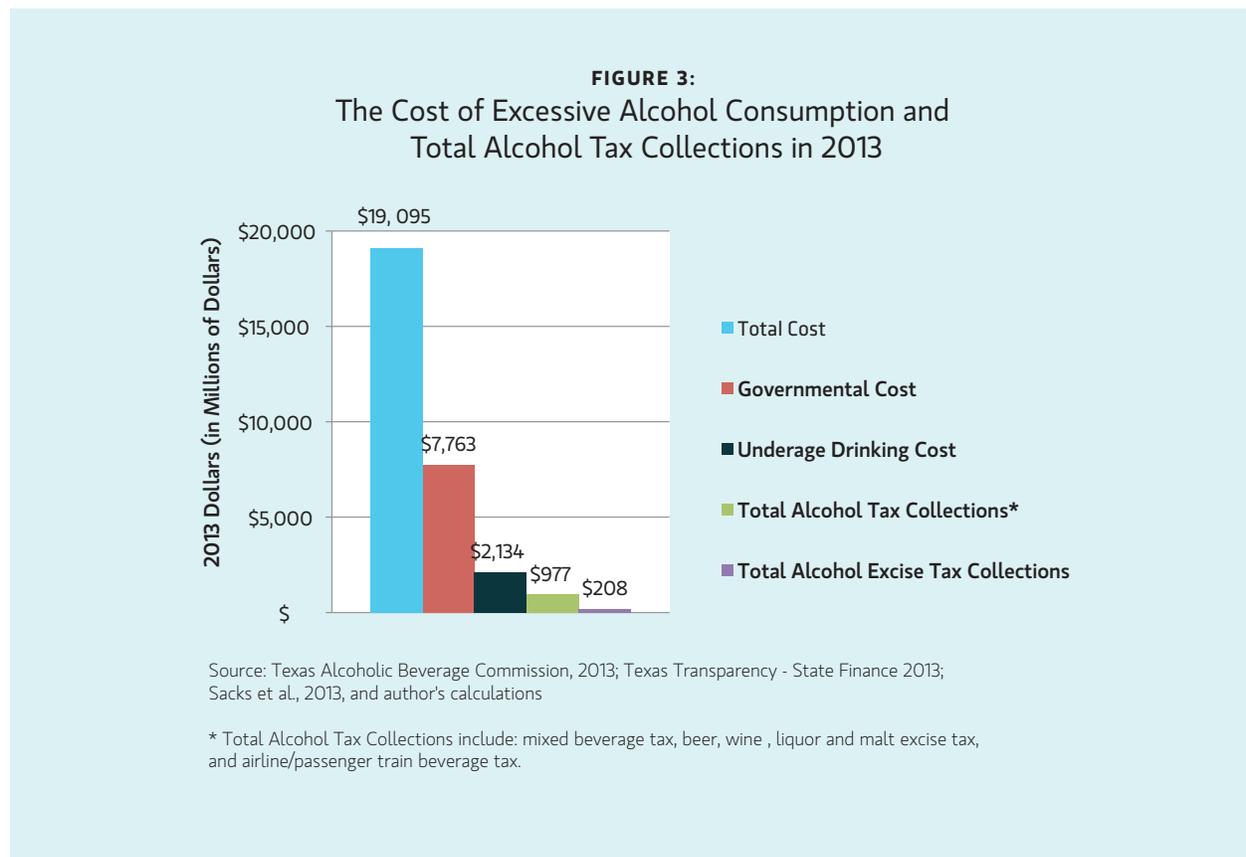
As detailed in Table 1, excessive drinking costs each Texan \$695 a year, amounting to a total cost of \$19 billion in 2013. The government pays for 40.7 percent of these costs, which is equal to 74 cents per each drink consumed in Texas. This 74 cents stands in stark contrast to the seven cents each consumer currently pays per drink in beer, eight cents in wine, and 18 cents in spirit excise taxes, including both federal and state taxes.^{ix} Even a 10 cent per drink increase in the tax would still amount to only about one eighth of the full cost.

To further contextualize these costs, the above figures can be compared to the total state costs for smoking in Texas, similarly updated for inflation. It is important to note that the total state costs for excessive drinking are of the same order of magnitude as the total costs of smoking. Though most members of society recognize the significant costs of smoking, few fully recognize the costs of excessive drinking.

The costs of excessive drinking are not equally distributed. As an example, FAS has been estimated to cost the nation approximately \$3.6 billion a year.²⁴ For individuals with FAS, costs can amount to \$2.0 million in a lifetime, a cost not bore equally by all excessive drinkers.²⁴

To further illustrate this statement, consider the cost of underage drinking, \$2.1 billion a year, a cost that is paid by all Texans but is caused by underage adults who choose to break the law and drink.

Figure 3 further compares the total cost of excessive alcohol use, \$19 billion, and the share of the cost that the government pays, \$7.7 billion, to the total alcohol revenue collected for all alcohol imposed taxes, \$977 million, and the total alcohol excise tax revenue, \$208 million. There is no doubt that production and consumption of alcohol generates tax revenue, but at the current rates, this benefit is dwarfed by the costs caused by excessive alcohol use.



Lastly, it is important to note that these estimates are substantially underestimated. Limitations include: the inability to estimate household productivity for stay-at-home parents and to calculate the lack of productivity because of “hangovers”; inaccurate mortality and morbidity totals that were estimated based on alcohol being the primary cause of death or illness and do not include contributing causes that were alcohol-related; and the omission of intangible costs—one study that analyzed the cost of underage drinking estimated that intangible costs were twice as large as tangible costs.²⁵

MODELING THE EFFECTS OF A TAX INCREASE

Consumption and Increased Tax Revenue

Empirical evidence suggests that alcohol tax-induced price increases are fully passed on to consumers by producers in a one to two ratio.²⁰ In other words, a 10 cent increase in alcohol excise taxes will actually lead to a 10 to 20 cent price increase. This is an important point because even though the tax is levied on suppliers, the actual cost of the tax is fully passed on to consumers in the form of price increases. Like other goods, the demand for alcohol conforms to the fundamental principles of economics, with the quantity demanded of alcohol increasing as prices fall and decreasing as prices rise. *The Community Guide* recently analyzed 73 studies regarding the relationship between alcohol consumption and prices and confirmed that this basic principle of economics applies to alcohol demand.²⁶ Their comprehensive review also concluded that higher prices on beer, wine and spirits not only decrease consumption by the general population, but they also decrease the consumption by heavy drinkers. A section below focuses on the effect that higher prices have on consumption by young adults and underage drinkers.

Modeling the change in consumption that will occur because of an excise tax increase involves applying the *price elasticity of demand*. The price elasticity of demand is a measure used by economists to estimate the price sensitivity of consumers. It predicts how much consumption will change as a result of a change in price. For instance, an elasticity of -0.70 implies that a 10 percent increase in price would lead to a 7 percent drop in consumption. The estimates below use the elasticity estimates provided in the *Community Guide Review*. These elasticities are -0.50 for beer, -0.64 for wine, and -0.79 for spirits, and represent the median value of elasticities found in the *Community Guide's* systematic review of studies.

Table 2: Changes in Consumption Given Various Excise Tax Increases

	Proposed Tax Increase per Drink			
	\$ 0.05	\$ 0.10	\$ 0.25	\$ 0.30
Reduction in Spirit Consumption	-5.8%	-11.5%	-28.9%	-34.6%
Reduction in Wine Consumption	-3.5%	-7.0%	-17.5%	-21.1%
Reduction in Beer Consumption	-4.2%	-8.4%	-21.0%	-25.2%
Increase in Alcohol Excise Tax Revenue (in millions)	\$ 383.00	\$ 707.99	\$ 1,419.35	\$1,568.59

Source: Texas Alcoholic Beverage Commission, 2014 and author's calculations

Table 2 shows the percentage decrease in the consumption of beer, wine, and spirits given various

hypothetical tax increases per drink. In addition, the table shows how much excise tax collections would increase. From this simulation, it is important to note the “win-win” nature of alcohol excise tax increases: even relatively small price changes result in modest decreases in consumption (especially for the five cent and ten cent scenario) but are accompanied by considerably larger revenue gains to the state, \$383 and \$708 million respectively. Under the ten cent scenario, the additional revenue generated effectively quadruples the alcohol excise tax collections from 2013. Because demand for alcohol is somewhat inelastic, even when consumption decreases as the result of an excise tax increase, revenue to the state of Texas will increase considerably, not decrease.

Health Gains

As estimated above, a 10 cent tax increase per drink would reduce the consumption of beer (8.4 percent), wine (7 percent), and spirits (11.5 percent), but these are not the only effects that an increase in excise taxes would have. These reductions in consumption will be accompanied by large health gains. Based on the existing research literature, a 10 percent increase in the price of alcohol can be expected to reduce instances of drinking and driving by men by 7.4 percent and by women by 8.1 percent.²⁷ Higher alcohol prices also lead to reductions in cirrhosis,^{28, 29} rape and robbery,³⁰ violent behavior towards children,³¹ sexually transmitted diseases³² and suicide rates.^{33, 34} One recent study on alcohol tax increases and their benefits estimates that a doubling of the federal alcohol tax would reduce alcohol-related mortality by 35 percent, traffic fatalities by 11 percent, sexually transmitted disease by six percent, violence by two percent and crime by 1.4 percent.³⁵

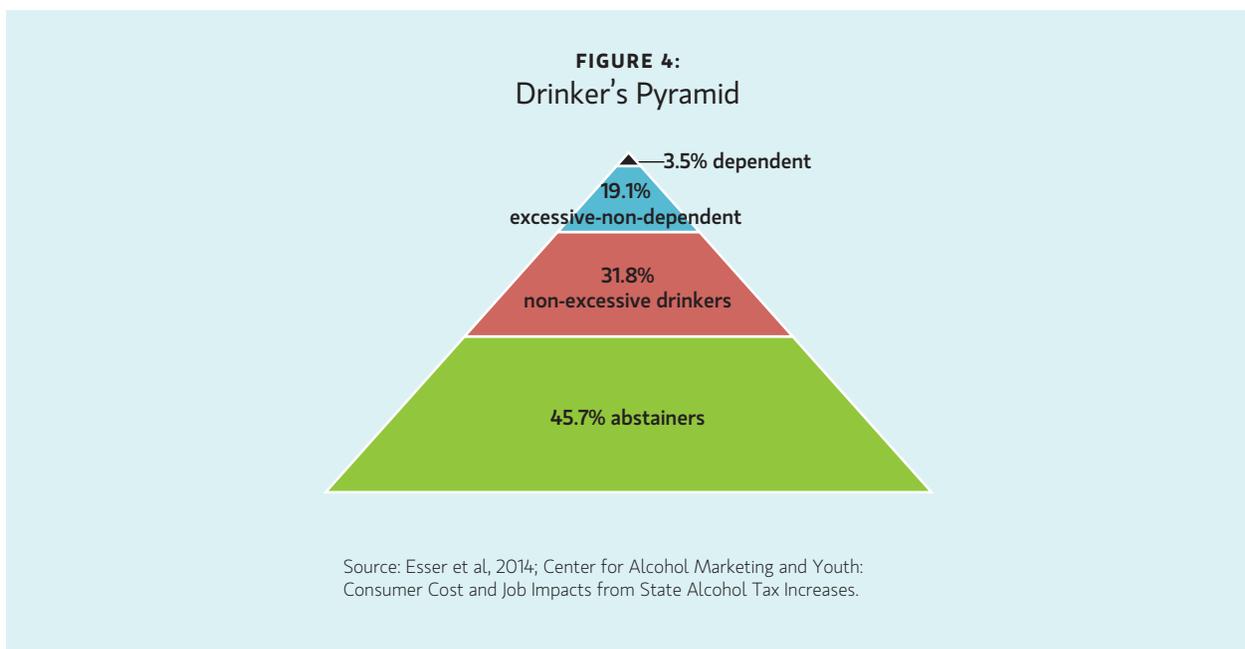
Table 3: Reductions in Mortality, Illness, Teenage Pregnancy, and Underage Drinking in Texas as a Result of Alcohol Excise Tax Increases

	Total Number	Percent Attributable to Alcohol Consumption	Total Attributable to Alcohol Consumption	Expected Reduction with Tax Increase			
				5 Cent Tax Increase per Drink	10 Cent Tax Increase per Drink	25 Cent Tax Increase per Drink	30 Cent Tax Increase per Drink
Mortality							
Traffic Deaths	3,398 ²	38% ²	1,296 ²	59	112	244	266
Homicides	1,363 ⁶	47%	641 ¹	29	55	121	132
Alcoholic Liver Disease	1083 ⁶	100% ¹	1,083	49	93	204	223
Liver Cirrhosis	2274 ⁶	40% ¹	910	41	78	171	187
Alcohol Abuse	82 ⁶	100% ¹	82	4	7	15	17
Suicide	2,889 ⁶	23% ¹	664	30	57	125	137
TOTAL				212	402	880	962
Illness and Teenage Pregnancy							
Fetal Alcohol Syndrome	771 ^{*,5}	100% ¹	771	35	66	145	158
Teenage Pregnancy	48,424 ³	9%	4,165 ⁴	189	359	785	856
Alcohol Dependence or Abuse	1,313,000 ⁵	100%	1,313,000	59,693	113,205	247,462	269,758
Heavy Alcohol Use	1,200,000 ⁵	100%	1,200,000	54,555	103,462	226,165	246,542
Prevalence of Underage Drinking							
Underage Drinking in the past 30 days (15-18 year olds)	1,512,932 ⁷	36%** ⁸	544,656	24,762	46,959	102,651	111,901
Underage Binge Drinking (15-18 year olds)	1,512,932 ⁷	21%*** ⁸	317,716	14,444	27,393	59,880	65,275
<small>Source: 1) Alcohol Related Disease Impact (ARDI) application, 2013; 2) U.S. Department of Transportation National Highway Traffic Safety Administration. 2012 Motor Vehicle Crashes: Overview; 3) Texas Department of State Health Services; 4) Underage Drinking Enforcement Training Center. Underage Drinking in Texas: The Facts; 5) SAMHSA; 6) Compressed Mortality 2010, Underlying Causes of Death from CDC WONDER; 7) American Fact Finder; 8) YRBSS; and author's calculations. * Calculated using 2010 live births in Texas (385,746) and approximated that there are 2 cases of FAS per 1,000 live births per CDC studies. ** Refers to the percentage of 15 to 18 year olds that drank alcohol in the past 30 days. *** Refers to the percentage of 15 to 18 year olds that binge drank in the past 30 days.</small>							

Table 3 models the reductions that would occur in mortality, illness, teenage pregnancy and underage drinking rates given various excise tax increase scenarios. These estimates assume that increases in the alcohol excise tax would affect all alcohol consumers equally, and therefore are likely to underestimate the true impact. A 10 cent increase per drink would prevent 112 alcohol-related traffic fatalities, 55 homicides, 93 deaths from alcoholic liver disease, 78 deaths from liver cirrhosis, seven deaths from alcohol abuse, and 57 suicides each year, for a total of 402 deaths prevented per year. In addition, 66

babies would not be born with FAS, and there would be 359 fewer teenage pregnancies annually. Finally, the tax increase would prevent 113,205 cases of alcohol dependence and abuse, 103,462 cases of heavy alcohol use, 46,959 cases of underage drinking among high school students, and 27,393 instances of binge drinking by underage drinkers ages 15-18.

The drinker's pyramid,^{36,37} provided in Figure 4, describes 4 types of drinkers. The pyramid emphasizes that not all consumers of alcohol are equal, further demonstrating that an increase in the alcohol excise tax would not affect all consumers equally and hence the numbers provided are likely underestimated.



The pyramid emphasizes ... that an increase in the alcohol excise tax would not affect all consumers equally

Underage Drinking Impact

Broad empirical research supports the notion that young adults and minors are more sensitive to increases in prices. Research has shown that price increases will lead to reductions in both the quantity and frequency of drinking in this population.^{38, 39, 40} Given the high costs incurred by underage drinkers, and given that 21 percent of them binge drank in the last 30 days,⁶ there is strong support to increase the price of beer, wine, and spirits through increases in alcohol excise taxes in order to decrease their consumption and related consequences. As was shown above, a 10 cent increase per drink would reduce underage drinking by 46,959 cases and would prevent 27,393 underage drinkers from binge drinking. In terms of educational outcomes, higher alcohol prices are associated with higher high school graduation rates as well as increased likelihood of attending and completing college.⁴¹ One study found that reducing the frequency of drinking while in college improved study habits, reduced the number of classes missed and frequency of falling behind on assignments, and was associated with increased GPA.⁴²

Fetal Alcohol Syndrome Impact

Fetal Alcohol Effects, Fetal Alcohol Syndrome or Fetal Alcohol Spectrum Disorder are the various terms used to describe the range of effects that can occur to an individual if exposed to alcohol in utero. Some of these effects may include physical, mental, behavioral, and/or learning disabilities and can have both short- and long-term implications.⁴³ While studies take the cost of Fetal Alcohol Syndrome (FAS) into account when estimating the economic cost of excessive alcohol consumption,^{23,44,45} no study to date has estimated the direct impact of alcohol excise taxes on FAS. However, as described above, empirical studies have shown that increasing alcohol excise taxes reduces all aspects of drinking in all populations,⁴⁶ which includes women of childbearing age and pregnant women. Given this evidence, it is almost certain that higher alcohol taxes would reduce FAS rates.

Experience in tobacco is relevant to this issue. Empirical research on the effects of increases in cigarette excise taxes has shown that an increase in cigarette taxes leads to decreases in the smoking rates of pregnant women and to higher average birth weights.⁴⁷ More specifically, a 10 percent increase in the price of cigarettes leads to reduced smoking rates of seven percent for pregnant women. Estimates that include the effect of higher prices on the decision of a pregnant woman to smoke conclude that pregnant women are responsive to price increases, including those with the highest smoking rates.⁴⁸





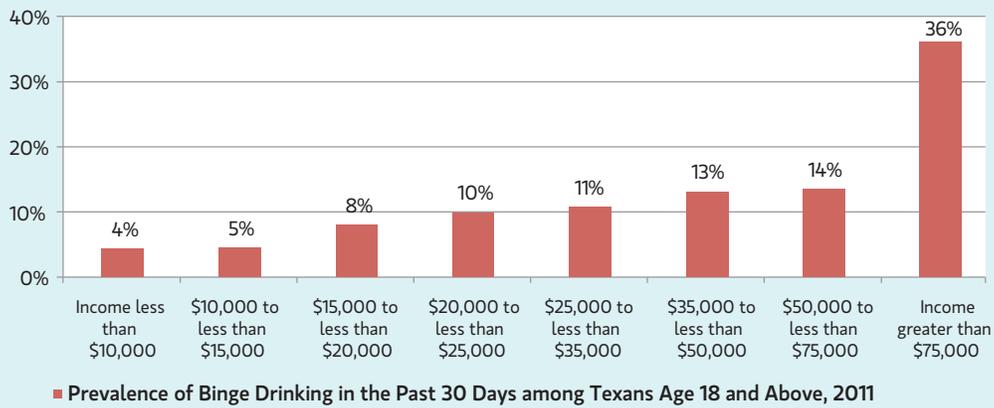
TAX INCREASE OPPOSITION

Increases in alcohol excise taxes will decrease alcohol consumption and therefore negatively impact the income of beer, wine and spirit producers. The most common arguments used by the alcohol (and tobacco) industry to oppose an increase in excise taxes are as follows: 1) the tax increase won't have the intended impact in terms of reducing consumption and its consequences; 2) the tax increase will not generate a significant increase in tax revenues; 3) the tax increase could disproportionately affect poor individuals and working class consumers; 4) the tax increase will lead to massive job losses; and 5) the tax increase will lead to tax avoidance and evasion. The empirical evidence refuting the first two of these counterarguments has been described above: there is abundant empirical evidence that alcohol tax increases lead to significant reductions in excessive drinking and its consequences, while generating higher tax revenues. The remaining arguments are discussed in this section.

Impact on the Average Texan

One argument the alcohol industry uses to oppose an alcohol excise tax increase is the notion that it is regressive and will disproportionately affect the poor and the working class. Contrary to popular belief, empirical research and surveys have shown that alcohol consumption increases with income. As can be seen in Figure 5, binge drinking in Texas is most prevalent for individuals making more than \$75,000 a year. In addition, alcohol taxes will have a greater effect on those who drink heavily compared to individuals who occasionally enjoy a drink. Moreover, economic theory and empirical evidence indicate that low income drinkers respond more to changes in alcohol prices than high income populations, so the drop in alcohol consumption is likely to be greater among lower income than among higher income people in response to an increase in the alcohol excise tax. Similarly, the health benefits gained because of the fall in consumption of alcohol will be progressive and, depending on how the tax revenue is appropriated, the increased tax revenue could further benefit the poor in the form of greater government funding for services and assistance to them.

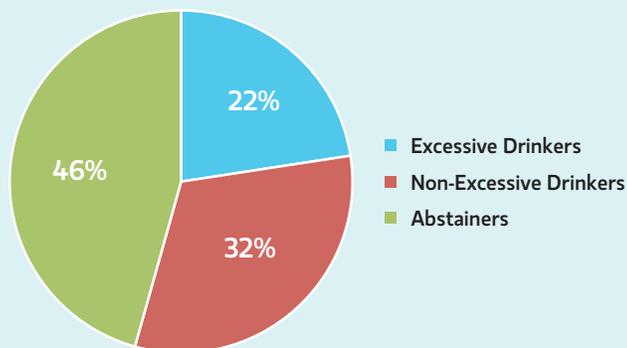
FIGURE 5:
Prevalence Binge Drinking in the Past 30 Days
among Texans Age 18 and Above, 2011



Source: CDC: Behavioral Risk Factor Surveillance System, Texas 2011

In the United States, the average consumer spends 0.9 percent of their disposable income on alcoholic beverages.⁴⁹ In the Dallas-Fort Worth area in 2011, the average adult spent \$447^x a year for alcoholic beverages.⁵⁰ Figure 6 shows the distribution of alcohol consumption among Texas adults age 18 and above.

FIGURE 6:
Distribution of Alcohol Consumption Among
Adults (age 18+) in Texas's Population



Source: Center for Alcohol Marketing and Youth:
Consumer Costs and Job Impacts from State Alcohol Tax Increases

The majority of the tax increase will be paid by excessive drinkers, who make up 22 percent of Texas residents.

x According to the Bureau of Labor Statistics, the average annual income before taxes in the Dallas-Fort Worth area is \$70,990 per household unit for the 2011-2012 survey. The average adult spent \$447 on alcohol beverages corresponding to 0.6 percent of their average annual income.

Table 4 models what an excessive and non-excessive drinker in Texas would pay in taxes after an alcohol excise tax increase. As the table shows, taxes are a much more targeted intervention than is often assumed. A ten cent increase per drink would cost the average Texan who does not drink excessively only \$4.53 a year; in contrast, excessive drinkers would pay an additional \$26.64 a year.³⁷ The majority of the tax increase will be paid by excessive drinkers, who make up 22 percent of Texas residents. The fact that 22 percent of the population will pay six times as much as a non-excessive drinker (32 percent of the population) demonstrates the effectiveness of alcohol taxation. Lastly, 46 percent of Texans would pay no additional tax because they do not drink.

Table 4: Cost of Tax Increase to Excessive and Non-Excessive Drinker

	Proposed Tax Increase per Drink			
	\$ 0.05	\$ 0.10	\$ 0.25	\$ 0.30
Cost to Excessive Drinker	\$ 13.97	\$ 26.64	\$ 56.86	\$ 61.98
Cost to Non-Excessive Drinker	\$ 2.38	\$ 4.53	\$ 9.67	\$ 10.54

Source: Center for Alcohol Marketing and Youth: Consumer Costs and Job Impacts from State Alcohol Tax Increases and author's calculations.

Productivity and Jobs Impact

For the alcohol industry the fall in income is a huge motivator to use its influence in politics. From 2008 to 2014, the alcohol industry donated more than \$51 million to federal political campaigns.⁵¹ In Texas the alcohol industry is one of the top 15 contributors to state campaigns: in 2012, contributions were close to \$3 million.⁵² The Beer Institute, the leading national lobbying body for beer producers, claims that the beer industry in Texas is responsible for 160,390 jobs, and that these jobs generate \$3,135 million in business and personal taxes and \$915 million in consumption taxes.⁵³ Institutions such as the Beer Institute argue that excise tax increases will lead to declines in employment and tax collections.

This argument has two central flaws. First, according to the federal Bureau of Labor Statistics, Texas has 1.2 million jobs in the “leisure and hospitality” sector.⁵⁴ Thus the Beer Institute is claiming that 13 percent, or one in eight jobs in the leisure and hospitality sector is in place entirely because of beer sales. It is doubtful that beer’s economic impact is that widespread.

The second flaw is that it assumes that individuals and their families will not spend the money they save on alcohol purchases on other goods and services in the economy, and the government revenues raised by a tax (and shifted from alcohol producers) will somehow disappear from the economy. The alcoholic beverage industry’s job estimates look at the impact in only their own industry. They do not account for the jobs created by increased consumer spending on other goods and services when spending on alcohol is reduced in response to tax increases as well as the jobs created by government spending of new alcohol tax revenues.⁵⁵

One recent study estimated the net impact of state alcohol tax increases on jobs, accounting for changes in consumer spending resulting from the tax increase as well as government spending of new tax revenues. Placing the funds generated by a 5 cent, 10 cent, 25 cent and 30 cent excise tax increase per drink into the Texas General Fund would generate estimated net increases of 7,852; 15,189; 34,774; and 38,947 jobs respectively. If the new tax revenues were instead earmarked for health care, an estimated 1,206; 2,332; 5,348; and 5,990 net jobs would be created, respectively, for each excise tax increase scenario. As an example, funds earmarked for healthcare could be used to increase support for addiction treatment and prevention programs (such as those to increase awareness and provide treatment for FAS).

It is important to note that the simulated net increase in generated jobs was calculated by accounting for changes in individual purchases of alcoholic beverages, changes in purchases of other goods and services, and government spending of new alcohol excise tax revenues. In other words, the loss of jobs resulting from the decrease in beer, wine and spirit consumption is fully taken into account and is more than made up for with the creation of jobs in other sectors, resulting in a net increase in jobs.

Table 5: Net Increase in Jobs in Year Following, Given Various Excise Tax Increases

	Proposed Tax Increase per Drink			
	\$ 0.05	\$ 0.10	\$ 0.25	\$ 0.30
Net Increase in Jobs	7,852	15,189	34,774	38,947
Net Increase in Health Care Jobs (if tax earmarked)	1,206	2,332	5,348	5,990

Source: Wada et al., 2014 (Web Tool available at: <http://www.camty.org/action/taxes/taxtool/index.html>) and author's calculations

In addition, the net gain in jobs described does not take into account the productivity improvements and decrease in “hangovers” that will occur because of the decrease in consumption of beer, wine, and spirits. Ensuring Solutions to Alcohol Problems, a group funded by The Pew Charitable Trusts, estimates that a hypothetical 100 employee firm in Texas has nine problem drinkers. This hypothetical firm loses two working days a month due to sickness, injury and absence because of alcohol use. In addition, this hypothetical firm has alcohol-related health care costs of \$60,573 a year.⁵⁶

Tax Avoidance and Evasion

While tax avoidance and evasion might seem like a legitimate concern, it is important to keep in mind that alcohol excise tax increases represent only a small percentage of the final price paid for alcoholic beverages. For the average consumer it would be costly to avoid and evade paying the increase in alcohol excise taxes. Experience in the few states that have increased alcoholic beverage excise taxes in recent years suggests that there is little to no cross-border shopping following the tax increase. Illinois,

for example, raised its alcohol taxes in September 2009. After the increase, the beer tax in Illinois (23.1 cents per gallon) was higher than those in the neighboring states of Indiana (11.5 cents per gallon), Iowa (19 cents per gallon) and Wisconsin (6.45 cents per gallon). Following the tax increase, Illinois beer tax revenues went up by 22.7 percent, while tax revenues went down by 3.6, 1.0 and 4.2 percent in Indiana, Iowa, and Wisconsin, respectively, suggesting that Illinois beer drinkers living near state borders did not leave the state to buy beer in an effort to avoid the tax increase.⁵⁷



CONCLUSION

Alcohol excise tax increases are effective in reducing consumption, improving health outcomes, enhancing productivity, creating jobs, and reducing the high costs associated with excessive drinking, while providing much needed revenue to the state of Texas. Heavy drinkers will pay the vast majority of the excise tax increases, but they and their families and communities will also benefit the most. A ten cent increase in the tax on a drink will generate \$708 million in new tax revenues, despite the reductions in alcohol consumption that would result. The evidence presented in this report demonstrates that an increase in alcohol excise taxes will be beneficial to the state of Texas without having a negative economic impact on the state. These conclusions are not unique: in their landmark 2004 report *Reducing Underage Drinking: A Collective Responsibility*,⁵⁸ the National Research Council and the Institute of Medicine, the leading scientific advisory bodies to the U.S. Congress, called for Congress to increase alcohol excise taxes as a central part of a comprehensive plan to reduce underage drinking and related consequences.



ABOUT THE AUTHORS

Megan C. Diaz is a PhD Candidate in the Department of Economics at the University of Illinois at Chicago. Her fields of focus are Health Economics and Public Finance. She is a Research Assistant at the Institute for Health and Research Policy's Health Policy Center, where her research and work focuses on tobacco markets, tobacco use, tobacco marketing, new and emerging tobacco products, and tobacco prices and taxes. She has collaborated with leading researchers in the field of tobacco economics, including Dr. Frank Chaloupka, Dr. John Tauras, and others; pending publications include "Economic Impact of Arkansas' Tobacco Tax Increase on Low-Income Households in Arkansas" with the Centers for Disease Control and "Are Vaping Products Displacing Cigarettes? Evidence from Nielsen Retail Data, 2007-2013."

Frank J. Chaloupka, Ph.D. is a Distinguished Professor at the University of Illinois at Chicago (UIC), where he has been on the faculty since 1988. He is Director of the UIC Health Policy Center and Director of the World Health Organization Collaborating Centre on the Economics of Tobacco and Tobacco Control. Dr. Chaloupka holds appointments in the College of Liberal Arts and Sciences' Department of Economics and the School of Public Health's Division of Health Policy and Administration. He is a Fellow at the University of Illinois' Institute for Government and Public Affairs, and is a Research Associate in the National Bureau of Economic Research's Health Economics Program and Children's Program. Dr. Chaloupka is Co-Director of Bridging the Gap: Research Informing Policy and Practice for Healthy Youth Behavior and Director of BTG's ImpacTeen Project. He is also Co-Director of the International Tobacco Evidence Network. Hundreds of publications and presentations have resulted from Dr. Chaloupka's research on the effects of economic, policy, and environmental factors on health behavior, including tobacco use, drinking, drug use, diet, physical activity, and related outcomes.

David H. Jernigan, Ph.D. is an Associate Professor in the Department of Health, Behavior and Society and the Director of the Center on Alcohol Marketing and Youth at the Johns Hopkins Bloomberg School of Public Health, where he teaches courses on media advocacy and alcohol policy. He also leads two other research projects: a collaboration with Boston University School of Public Health looking at youth alcohol brand preference and brand-level exposure to alcohol marketing, and a four-university collaborative examining the social and health effects of changes in alcohol pricing. He has worked as an adviser to the World Health Organization (WHO) and the World Bank, was principal author of WHO's first *Global Status Report on Alcohol* and *Global Status Report on Alcohol and Youth*, and co-authored *Media Advocacy and Public Health: Power for Prevention and Alcohol in the Developing World: A Public Health Perspective*.



ABOUT TEXANS FOR SAFE AND DRUG-FREE YOUTH

Texans for Safe and Drug-Free Youth (TxSDY) is the state's leading organization working to end underage alcohol, tobacco, and other drug use. Research indicates that the most effective ways to reduce youth substance use at statewide and community levels are policy and environmental changes. As such, TxSDY strives to implement and train others to use evidence-based community prevention strategies to reduce alcohol, tobacco, and other drug use among Texas youth.

Raising alcohol excise taxes is proven to reduce underage and risky alcohol use and associated negative consequences. In 2002, TxSDY commissioned Texas Perspectives, Inc. to prepare the report "The Fiscal Impact of Raising Texas Alcohol Taxes." Because alcohol use among youth in Texas remains high and the impact of excessive alcohol use on all Texans is unparalleled, TxSDY commissioned the authors to prepare an updated report on the impact of increasing alcohol excise taxes in Texas.

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ADDENDA

THE EFFECT OF ALCOHOL EXCISE TAX INCREASES ON SEXUAL ASSAULT

Megan C. Diaz, MA

In 2015, the Institute on Domestic Violence & Sexual Assault of The University of Texas at Austin published *Health and Well-Being: Texas Statewide Sexual Assault Prevalence Study*. A main purpose of the study was to obtain reliable estimates on sexual assault prevalence where alcohol was present. This study and its data, previously unavailable, fill an important gap in the original Texans for Safe and Drug-Free Youth report, *The Effects of Alcohol Excise Tax Increases on Public Health and Safety in Texas*. This addendum calculates the effect a 5 cent, 10 cent, 25 cent, and 30 cent excise tax increase per drink would have on the rate of sexual assault where alcohol was consumed by the perpetrator.

Health and Well-Being: Texas Statewide Sexual Assault Prevalence Study finds an annual rate of 413,000 cases of sexual assault of adult Texans, and 65.2 percent of these victims reported multiple victimizations. Approximately 14.8 percent of victims reported alcohol use by the perpetrator.

The data collected are sound and reliable for several reasons. They build on the survey design of The National Intimate Partner and Sexual Violence Survey, the Statewide Prevalence Study of Intimate Partner Violence in Texas, The Health Survey of Texans: A Focus on Sexual Assault, The National Violence Against Women Survey, the Pacific Attitudes Toward Gender Scale, the Bystander Efficacy Scale, and the Readiness to Help Scale. Furthermore, a research working group of sexual assault experts helped plan the survey design.ⁱ To date, this is the most comprehensive and current study on sexual assault for the state of Texas, and is therefore the basis of the data used for this addendum.

The study itself addresses a number of limitations to the survey design; however, for the purposes of this addendum, two limitations are worth noting. First, sexual assault is a highly underreported crime, which leads to an underestimation of the actual impact and prevalence. Therefore, the numbers used should be considered a lower bound. For perspective, studies have estimated that alcohol use among perpetrators has ranged from 34 to 74 percent, which is between two and five times the estimate used in this addendum.¹ The second limitation worth noting pertains to how the interview of the victim was performed. The data and information provided by the victim are based on one victimization experience that the victim chose to share, and are not based on all sexual assault cases reported by the victim when more than one incident occurred. This again would lead to an underestimation of the actual impact and prevalence of sexual assault.

ⁱ The research working group included members of the Texas Department of State Health Services, Texas Association Against Sexual Assault, the Office of the Attorney General, and The Institute on Domestic Violence and Sexual Assault at The University of Texas at Austin.

Finally, it is worth noting that it is beyond the scope of this addendum to discuss the nature of the relationship between alcohol consumption and sexual assault. Instead, this addendum focuses on how an increase in the alcohol excise tax would lead to a decrease in sexual assault cases where alcohol was consumed by the perpetrator.

Using the same methodology used in *The Effects of Alcohol Excise Tax Increases on Public Health and Safety in Texas* under the Health Gains section, the estimates in the table below indicate an annual decrease of between 2,779 and 12,558 cases of sexual assault based on the tax increase scenario chosen. The reductions are significant and should be considered a probable lower bound of the actual decrease that would occur.

Reductions in Sexual Assault as a Result of Alcohol Excise Tax Increases

	Total Number	Percent Attributable to Alcohol Consumption	Total Attributable to Alcohol Consumption	Expected Reduction with Tax Increase			
				5 Cent Tax Increase per Drink	10 Cent Tax Increase per Drink	25 Cent Tax Increase per Drink	30 Cent Tax Increase per Drink
Sexual Assault (Offender under the influence of alcohol)	413,000	14.8%	61,124	2,779	5,270	11,520	12,558

Source: Health and Well-Being: Texas Statewide Sexual Assault Prevalence Study, Final Report August 2015; and author's calculations.

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THE EFFECT OF ALCOHOL EXCISE TAX INCREASES ON ALCOHOL-ATTRIBUTABLE CANCER DEATHS

Megan C. Diaz, MA

This addendum complements the previously published report, *The Effect of Alcohol Excise Tax Increases on Public Health and Safety in Texas*, and subsequent addendum, *The Effect of Alcohol Excise Tax Increases on Sexual Assault*. It specifically addresses the effect that increases in alcohol excises taxes will have on alcohol-attributable cancers. More specifically, this addendum will show the effect a 5 cent, 10 cent, 25 cent, and 30 cent excise tax increase per drink will have on alcohol-attributable cancer mortality.

The data and background for this addendum are based heavily on the 2013 paper published by Nelson and colleagues, *Alcohol-Attributable Cancer Deaths and Years of Potential Life Lost in the United States*. There are two main reasons to use this paper: 1) few papers have focused on calculating the number of cancer deaths attributable to alcohol in the United States, and 2) the authors use two sound methodologies to calculate the fraction of cancer deaths that can be attributable to alcohol. It is important to keep in mind that, unlike other health conditions that can be 100% attributable to alcohol consumption (e.g., alcoholic liver disease²), only a fraction of deaths from certain types of cancer can be attributed to alcohol consumption.¹ Overall, alcohol is estimated to cause about three percent of US cancer deaths, with the greatest share attributable to oral cavity and pharynx, esophagus, and breast cancer.¹

In this addendum, the percentages of alcohol-related cancer deaths in Texas are calculated using the population-attributable fractions (PAF) found in Table 1 of Nelson et al.'s published research.¹ The PAFs quantify how much a risk factor (i.e., alcohol consumption) contributes to disease or death. Nelson et al. use two separate methodologiesⁱ and two data sourcesⁱⁱ to calculate these fractions for both women and men. The smallest percentage of these four estimates is used in this addendum. Additionally, the calculations focus on the seven cancers that both the International Agency for Research on Cancer (IARC) and the World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) consider causally associated with alcohol consumption: 1) oral cavity and pharynx, 2) larynx, 3) esophagus, 4) liver, 5) colon, 6) rectum, and 7) female breast.^{3,4} Finally, the cancer mortality data are from the Texas Cancer Registry, which is a statewide population-based registry that measures the Texas cancer burden, among other priorities.⁵

i Method I triangulates estimates of alcohol consumption from surveys and per capita consumption, taking into account recorded sales, unrecorded consumption, abstinence, and average volume of consumption among drinkers. Method II is based on method I and adjusts for survey consumption underreporting of alcohol by using average per capita sales. For those interested in additional information, see Nelson et al.'s published report.

ii Data from the Behavioral Risk Factor Surveillance System (BRFSS) and the National Alcohol Survey (NAS) was used to estimate the average number of drinks consumed per day.

Using the same methodology used in *The Effects of Alcohol Excise Tax Increases on Public Health and Safety in Texas* under the Health Gains section, the estimates in the table below indicate an annual overall decrease of 41, 77, 168, and 183 cancer deaths for a 5 cent, 10 cent, 25 cent, and 30 cent excise tax increase per drink, respectively. It is interesting to note the major decreases that will occur for female breast cancer, given the high number of annual deaths that affect women. Lastly, it is important to reiterate that these calculations are based on the smallest estimate provided for the percentages of cancer deaths attributable to alcohol, so these reductions should be considered a probable lower bound.

For cancer prevention, alcohol consumption is one of largest avoidable risk factors. Given that the fractions estimated include both people who drink more than three drinks a day and those who moderately drink one drink a day (about 30 percent of alcohol-attributable deaths), these reductions are significant.

Reductions in Cancer Mortality

	Total Number (2013)	Percent Attributable to Alcohol Consumption	Total Attributable to Alcohol Consumption	Expected Reduction with Tax Increase			
				5 Cent Tax Increase per Drink	10 Cent Tax Increase per Drink	25 Cent Tax Increase per Drink	30 Cent Tax Increase per Drink
Oral Cavity and Pharynx	679	26%	177	8	15	33	36
Larynx	279	11%	31	1	3	6	6
Esophagus	842	16%	135	6	12	25	28
Liver	1,690	8%	135	6	12	25	28
Colon excluding Rectum	2,902	2%	58	3	5	11	12
Rectum and Rectosigmoid Junction	665	4%	27	1	2	5	5
Female Breast	2,744	12.0%	329	15	28	62	68

Source: Age-Adjusted Cancer Mortality Rates by County in Texas, 2009 - 2013. Cancer Mortality File, September 2015. Texas Cancer Registry; Nelson et al.; and author's calculations

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Contact Us

info@TxSDY.org | 512.442.7501

TxSDY.org

